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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,967	04/14/2005	Philipp Stossel	09931-00034-US	7321

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EXAMINER

THOMPSON, CAMIE S

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/519,967

Applicant(s)

STOSSEL ET AL.

Examiner

Camie S. Thompson

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on June 02, 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 11-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 11-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment and accompanying remarks filed June 02, 2006 are acknowledged.
2. Examiner acknowledges amended claims 2-3, 6 and 14.
3. Examiner acknowledges cancelled claims 8-10.
4. The objection of claims 2-3 and 14 is withdrawn due to applicant's amendment of claims 2-3 and 14.
5. The rejection of claims 1-21 under 35 U.S.C. 112, second paragraph is withdrawn due to applicant's argument.
6. The rejection of claims 6 and 16 under 35 U.S.C. 102(b) as being anticipated by Kitamura et al., *Design of Narrow-Bandgap Polymers. Syntheses and Properties of Monomers and Polymers Containing Aromatic-Donor and O-Quinoid-Acceptor Units* is withdrawn due to applicant's argument.
7. The rejection of claims 1-2, 7, 11-13 and 18-21 under 35 U.S.C. 102(a) as being anticipated by JP 2003-104976 is overcome by applicant's submission of the English certified translation of the priority document.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

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9. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7 is not commensurate in scope with claim 1 from which it depends. Claim 7 recites Ar whereas claim 1 does not recite Ar.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

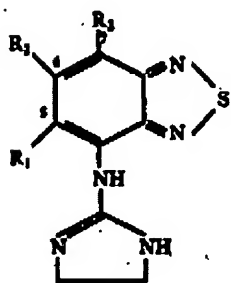
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

11. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Eichenberger et al., U.S. Patent Number 4,053,617.

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Eichenberger discloses 2,1,3-benzothiadiazole such as



The reference discloses that each of R_1 , R_2 and R_3 can be hydrogen, halogen, alkyl, alkoxy, nitro, cyano, hydroxyl or alkylthio. Based upon the group for R_1 through R_3 , the molar mass can range from 450 g/mol to 5000 g/mol.

12. Claims 1-2, 4-5, 11-13, 5 and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2002-097949.

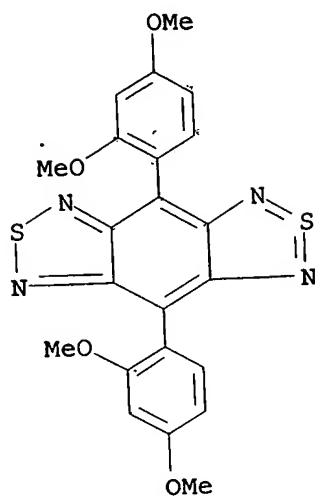
The Japanese reference discloses an organic electroluminescent element that comprises benzothiadiazole compounds with the structures A1-A2, A6-A7, A10-A11, A20, A26-A29.

The reference reads instant formulae (I), (II), (V) and (VII). The Japanese reference also discloses that the benzothiadiazole compounds can be used in an organic luminescence layer.

13. Claims 6 and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamashita et al., *Synthesis and properties of benzobis(thiadiazole)s with nonclassical pi-electron ring systems*.

The reference discloses benzothiadiazole derivatives such as

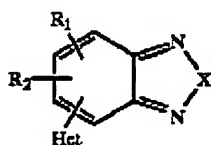
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The reference reads on formula IX when Ar is 2,4-(MeO)₂(C₆H₃) wherein the compound has a molar mass of 452 g/mol.

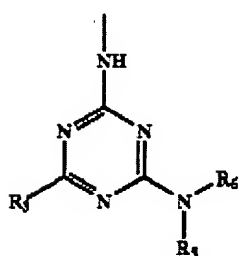
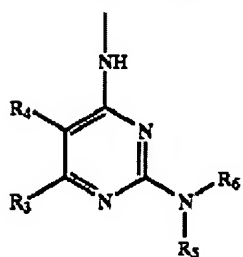
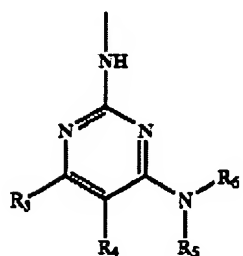
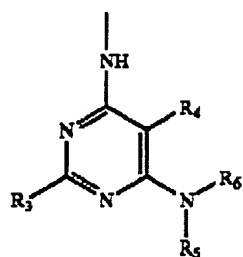
14. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Neumann, U.S. Patent Number 6,756,367.

Neumann discloses a compound with the structure



wherein R₁ and R₂ are hydrogen; X is S and Het is an organic radical such as

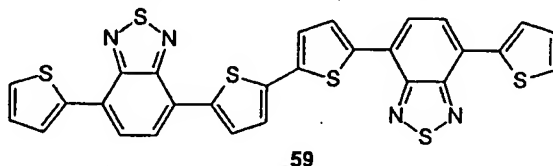
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15. Claim 3 is rejected under 35 U.S.C. 102(e) as being anticipated by van Mullekom et al., *Developments in the chemistry and band gap engineering of donor-acceptor substituted conjugated polymers*.

The van Mullekom reference discloses a compound with the structure



which reads on present formula (IV) when m and n of the present claim 3 is 1 and Ar is a thiophene.

Response to Arguments

16. Applicant's arguments with respect to claims 1-7 and 11-21 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (571) 272-1530. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena L Dye, can be reached at (571) 272-3186. The fax phone number for the Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


RENA DYE
SUPERVISORY PATENT EXAMINER

A.U. 1774 8/31/04